

## CURRICULUM VITAE

### JEFFREY L. BROWNING

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Birthplace:                      Pontiac, Michigan  
Birthdate:                      December 1, 1951

### EDUCATION

1976                      University of Wisconsin, Madison, Wisconsin.  
                                 Ph.D., Department of Biochemistry

1972                      Michigan State University, East Lansing, Michigan.  
                                 B.S. (cum laude), Biochemistry.

### RESEARCH EXPERIENCE - OVERVIEW

March 1984-Present      Currently: Distinguished Investigator, Biogen Research  
                                 -*New TNF Family Members, BAFF and TWEAK (Project Leader)*  
                                 -*Development of agonist LTBR mAb for Solid tumors (Project Leader)*  
                                 -*Surface Lymphotoxin: Structure and function (Project Leader)*  
                                 -*Studies on the role of exo-PLA2 in disease (Project Leader)*  
                                 -*Investigation of the anti-inflammatory properties of interferons.*  
                                 -*Exploration of the anti-inflammatory properties of annexin-I*  
                                 -*Evaluation of novel cytotoxins.*  
                                 -*Investigation of the active domains of Interleukin-2.*

September, 1982      Angenics, Inc. Cambridge, Massachusetts.  
to March, 1984      Senior Scientist.  
                                 - *Development of anti- $\beta$ -lactam monoclonals*

1981 - 1982              University of California, San Francisco, California.  
                                 Departments of Physiology and Biochemistry.  
                                 Post-doctoral work with Dr. Louis Reichardt.  
                                 - *Application of hybridoma technology to the study of  
                                 intermediate filaments at neuromuscular junctions*

1976 - 1981              University of Basel, Basel, Switzerland. Biocenter,  
                                 Department of Biophysical Chemistry.  
                                 Post-doctoral work with Dr. Joachin Seelig.

- *Studies on phospholipids in membranes using solid state nuclear magnetic resonance methods*

1973 - 1976

University of Wisconsin, Madison, Wisconsin.

Department of Biochemistry.

Graduate studies with Dr. David Nelson.

- *Biochemical approaches to ion gating in nerve-like systems.*

### **FELLOWSHIPS**

1981 - 1982

Muscular Dystrophy Post-Doctoral Fellowship.

1978

NIH Post-Doctoral Fellowship (did not accept)

1978

Muscular Dystrophy Post-Doctoral Fellowship (did not accept)

1977

American-Swiss Foundation for Scientific Exchange Fellow.

1976

NATO Post-Doctoral Fellowship (did not accept)

1976 - 1978

Cystic Fibrosis Post-Doctoral Fellowship.

1975 - 1976

Proctor & Gamble Pre-Doctoral Fellowship.

### **PUBLICATIONS**

1). **Browning, J.** and Nelson, D. (1976) "Biochemical Studies on the Excitable Membrane of Paramecium I.  $\text{Ca}^{++}$  Fluxes Across the Resting and Excited Membrane", Biochim. Biophys. Acta, 448:338-351.

2). **Browning, J.** and Nelson, D. (1976) "Membrane Excitability in Paramecium Evidence for a Role for the Bilayer Couple", Proc. Natl. Acad. Sci. USA, 73:452-456.

3). **Browning, J.**, Nelson, D. and Hansma, H. (1976) " $\text{Ca}^{++}$  Influx Across the Excitable Membrane of Behavioural Mutants of Paramecium", Nature, 259:491-494.

4). Seelig, J. and **Browning, J.** (1978) "General Features of Phospholipid Conformation in Membranes", FEBS Letters, 92:41-44.

5). **Browning, J.** and Nelson, D. (1979) "Fluorescent Probes for Asymmetric Lipid Bilayers; Synthesis and Properties in Phosphatidylcholine Liposomes and Erythrocyte Membranes", J. Membrane Biology, 49:75-103.

6). **Browning, J.** and Seelig, J. (1979) "Synthesis of Specifically Deuterated Saturated and Unsaturated Phosphatidylserine", Chem. Phys. Lipids, 24:103-118.

7). **Browning, J.** and Seelig, J. (1980) "Bilayers of Phosphatidylserine: A Deuterium and Phosphorus Magnetic Resonance Study", Biochemistry, 19:1262-1270.

8). **Browning, J.** (1981) "The Motions and Interactions of Phospholipid Headgroups I. Simple Alkyl Headgroups", Biochemistry, 20:7123-7133.

9). **Browning, J.** (1981) "The Motions and Interactions of Phospholipid Headgroups II. Headgroups with Hydroxy Groups", Biochemistry, 20:7133-7143.

10). **Browning, J.** (1981) "The Motions and Interactions of Phospholipid Headgroups III. Dynamic Properties of Amine Containing Headgroups", Biochemistry, 20:7144-7151.

- 11). **Browning, J.** and Akutsu, H. (1981) "Local Anesthetics and Divalent Cations Have the Same Effect on the Phosphocholine and Phosphoethanolamine Headgroups" Biochim.Biophys. Acta, 648:172-178.
- 12). Pepinsky, R.B., Sinclair, L., **Browning, J.**, Mattaliano, R., Smart, J., Chow, P.-C., Falbel, T., Ribolini, A., Garwin, J., and Wallner, B. (1986) "Purification and Partial Sequence Analysis of a 37-kDa Protein That inhibits Phospholipase A<sub>2</sub> Activity from Rat peritoneal Exudates", J. Biol. Chem. 261: 4239-4246.
- 13). **Browning, J.**, Mattaliano, R., Chow, P.-C., Liang, S.-M., Allet, B., Rosa, J., and Smart, J. (1986) "Disulfide Scrambling of Interleukin-2: HPLC Resolution of the Three Possible Isomers", Anal. Biochem., 155:123-128.
- 14). Huang, K.-S., Wallner, B., Mattaliano, R., Tizard, R., Burne, C., Frey, A., Hession, C., McGray, P., Sinclair, L., Chow, P.-C., **Browning, J.**, Ramachandran, K., Tang, J., Smart, J., and Pepinsky, R. B. (1986) "Isolation, Characterization and Primary Structure of Two Human 35-kD Phospholipase A<sub>2</sub> Inhibitory Proteins and Their Relationships to Substrates of pp60<sup>v-src</sup> and of the Epidermal Growth Factor Receptor/ Kinase", Cell, 46:191-199.
- 15). Wallner, B.P., Mattaliano, R.J., Hession, C., Cate, R.L., Tizard, R., Sinclair, L.K., Foeller, C., Chow, E.P., **Browning, J.L.**, Ramachandran, K.L., Pepinsky, R.B. (1986) "Cloning and Expression of Human Lipocortin, a Phospholipase A<sub>2</sub> Inhibitor with Potential Anti-inflammatory Activity", Nature, 320:77-81.
- 16). Cirino, G., Flower, R., **Browning, J.**, Sinclair, L., Pepinsky, R. (1987) "Recombinant Human Lipocortin 1 Inhibits Thromboxane Release from Guinea-pig Isolated Perfused Lung", Nature, 328:270-272.
- 17). **Browning, J.** (1987) "Interferons and Rheumatoid Arthritis: Insight into Interferon Biology?", Immunology Today, 8:372-374.
- 18). **Browning, J.**, and Ribolini, A. (1987) "Interferon Blocks Interleukin-1 Induction of Prostaglandin E<sub>2</sub> from Human Peripheral Monocytes", J. Immunol., 138: 2857-2863 .
- 19). Pepinsky, R., Tizard, R., Mattaliano, R. Sinclair, L., Miller, G., **Browning, J.**, Pinchang Chow, E., Burne, C., Huang, K.-S., Pratt, D., Wachter, L., Hession, C., Frey, A., Wallner, B. (1988) "Five Distinct Calcium and Phospholipid Binding Proteins Share Homology with Lipocortin I", J. Biol. Chem., 263:10799-10811.
- 20). **Browning, J.** and Ribolini, A. (1989) "Studies on the Differing Effects of Tumor Necrosis Factor and Lymohotoxin on the Growth of Several Human Tumor Lines" J. Immunol. 143:1859-1867.
- 21). Cirino, G., Peers, S., Flower, R., **Browning, J.** and Pepinsky, B. (1989) "Human Recombinant Lipocortin-1 has Acute Local Antiinflammatory Properties in the Rat Paw Edema Test" Proc. Natl. Acad. Sci. 86:3428-3432.
- 22). Violette, S., King, I., **Browning, J.**, Pepinsky, B., Wallner, B. and Sartorelli, A. (1990) "Role of Lipocortin-1 in the Glucocorticoid Induction of the Terminal Differentiation of a Human Squamous Carcinoma" J. Cell. Physiol. 142:70-77.
- 23). Pepinsky, B., Sinclair, L. Douglas, I., Liang, C.-M., Lawton, P. and **Browning, J.** (1990) "Monoclonal Antibodies to Lipocortin-1 as Probes for Biological Function" FEBS Letters 261:247-252.
- 24). Goulding, N., Podgorski, M., Hall, N., Flower, R., **Browning, J.**, Pepinsky, B., and Maddison, P. (1990) "Autoantibodies to Recombinant Lipocortin-1 in Rheumatoid Arthritis and Systemic Lupus Erythematosus" Ann. Rheum. Dis. 48:843-850.
- 25). Bomalaski, J., P. Lawton and **J. Browning.** (1991). "Recombinant Human Extracellular Phospholipase A<sub>2</sub> induces an inflammatory response in rabbit joints" J. Immunol. 146: 3904-3910.

- 26). **Browning, J. L.**, Androlewicz, M. J. and C. F. Ware. (1991). "Lymphotoxin and an associated 33 kDa glycoprotein are expressed on the surface of an activated human T cell hybridoma" J. Immunol. 147: 1230-1237.
- 27). Scott, D.L., White, S.P., **Browning, J.L.**, Rosa, J.J., Gelb, M.H. and Sigler, P.B. (1991) "Structures of free and inhibited human secretory phospholipase A2 from inflammatory exudate" Science 254: 1007-1010.
- 28). Androlewicz, M.J., **Browning, J.L.** and Ware, C.F. (1992) "Lymphotoxin is expressed as a heteromeric complex with a distinct 33 kDa glycoprotein on the surface of an activated human T cell hybridoma" J. Biol. Chem. 267: 2542-2547 .
- 29). Ware, C.F., Crowe, P. D., Grayson, M.H., Androlewicz, M.J. and **Browning, J.L.** (1992) "Expression of surface lymphotoxin and tumor necrosis factor on activated T, B and Natural Killer Cells" J. Immunol. 149:3881-3888.
- 30). Pruzanski, W., Wilmore, D.W., Suffedini, A., Martich, G.D., Hoffman, G.D., **Browning, J.L.**, Stefanski, E., Sternby, B. and P. Vadas (1992) "Hyperphospholipasemia A2 in human volunteers challenged with intravenous endotoxin" Inflammation 16:561-570.
- 31). Bayburt, T., Yu, B-Z., Lin, H-K., **Browning, J.L.**, Jain, M.K., and Gelb, M.H. (1993). "Human nonpancreatic secreted phospholipase A2: Interfacial parameters substrate specificities and competitive inhibitors" Biochemistry 32:573-582.
- 32). **Browning, J.L.**, Ngam-ek, A., Lawton, P., DeMarinis, J., Tizard, R., Chow, E.P., Hession, C., O-Brine-Greco, B., Foley, S., and Ware, C.F. (1993) "Lymphotoxin- $\beta$ : A novel member of the TNF family that forms a heteromeric complex with lymphotoxin on the cell surface" Cell 72:847-856.
- 33). Santos, A., Scheltinga, M., Lynch, E., Brown, E., Lawton, P., Chambers, E., **Browning, J.L.**, Dinarello, C., Wolff, S. and Wilmore, D. (1993) "Elaboration of interleukin-1 receptor antagonist is not attenuated by glucocorticoids following endotoxemia" Arch Surgery 128:138-144.
- 34). Cirino, G., Cicala, C., Sorrentino, L. and **Browning, J. L.**, (1993) "Human recombinant platelet phospholipase A2 has anticoagulant activity in vitro on human plasma" Thrombosis Res. 70:337-342.
- 35). Cirino, G., Cicala, C., Sorrentino, L., **Browning, J.L.** and Page, C.P. (1994). "Human recombinant phospholipase A2 inhibits platelet aggregation in vitro and in vivo in rat and guinea pig" Eur. J. Pharmacol. 252:147-154.
- 36). Cirino, G., Cicala, C., Sorrentino, L., Maiello, F.M. and **Browning, J.L.** (1994). "Human extracellular recombinant phospholipase A2 induces a synovitis-like inflammation in rat air pouch" J. Rheumatol. 21:824-9.
- 37). Pruzanski, W., Vadas, P. and **Browning, J. L.** (1993) "Secretory non-pancreatic PLA2 phospholipase A2: Role in physiologic and inflammatory processes" J. Lipid Mediators 8:161-167.
- 38). Santos, A.A., **Browning, J.L.**, Scheltinga, M.R., Lynch, E.A., Brown, E.F., Lawton, P., Chambers, E., Douglas, I., Benjamin, C., Dinarello, C.A., Wolff, S.M., Jacobs, D.O. and Wilmore, D.W. (1994). "Does circulating PLA2 cause sepsis-related events following endotoxemia?" Arch Surgery 219: 183-192.
- 39). Crowe, P. D., VanArsdale, T. L., Walter, B. N., Ware, C. F., Hession, C., Ehrenfels, B., **Browning, J. L.**, Din, W., Goodwin, R. G. and C. A. Smith (1994) "A novel receptor specific for lymphotoxin- $\beta$ " Science 264:707-710.

- 40). **Browning, J. L.**, Douglas, I., Ngam-ek, A., Bourdon, P., Ehrenfels, B., Miatkowski, K., Zafari, M., Yampaglia, A., Lawton, P., Benjamin, C., Meier, W. and C. Hession. (1995) "Characterization of surface lymphotoxin forms: use of specific monoclonal antibodies and soluble receptors" J. Immunol. 154: 33-46.
- 41). Lawton, P., Nelson, J., Tizard, R. and **J. L. Browning**. (1995). "Characterization of the mouse lymphotoxin-beta gene" J. Immunol. 154: 239-246.
- 42). Force, W.R., Walter, B.N., Hession, C., Tizard, R., Kozak, C.A., **Browning, J.L.** and Ware, C.F. (1995) "Mouse lymphotoxin- $\beta$  receptor: Molecular genetics, ligand binding and expression" J. Immunol. 155:5280-5288.
- 43). **Browning, J. L.**, Miatkowski, K., Sizing, I., Griffiths, D. A., Zafari, M., Benjamin, C. D., Meier, W. and MacKay, F. (1996). "Signaling through the lymphotoxin- $\beta$  receptor induces the death of some adenocarcinoma tumor lines" J. Exp. Med. 183: 867-878
- 44). **Browning, J. L.**, Miatkowski, D., Griffiths, D. A., Bourdon, P., Hession, D., Ambrose, C. M. and W. Meier (1996). "Characterization of soluble recombinant forms of lymphotoxin- $\alpha/\beta$  complexes" J. Biol. Chem. 271: 8618-8626
- 45). MacKay, F., Majeau, G. R., Hochman, P. S. and **J. L. Browning** (1996). "Lymphotoxin- $\beta$  receptor triggering induces activation of the NF- $\kappa$ B transcription factor in various cell types" (1996) J. Biol. Chem. 271:24934-24938
- 46). Rennert, P. D., **Browning, J. L.**, Mebius, R., Mackay, F. and Hochman, P. S. (1996) "Surface lymphotoxin alpha/beta complex is required for the development of peripheral lymph nodes" J. Exp. Med. 184:1999-2006
- 47). Hochman, P. S., Majeau, G. R., Mackay, F. and **Browning, J. L.** (1996) "Proinflammatory responses are efficiently induced by homotrimeric but not heterotrimeric lymphotoxin ligands" J. Inflammation 46:220-234
- 48). Ettinger, R., **Browning, J. L.**, Mitchie, S. A., van Ewijk, W. and McDevitt, H. O. (1996) "Disrupted splenic architecture, but normal lymph node development in mice expressing a soluble lymphotoxin- receptor-IgG1 Fc chimeric fusion protein" Proc. Natl. Acad. Sci. USA 93:13102-13107
- 49). Bodmer, J-L., Burns, K., Schneider, P., Hofmann, K., Steiner, V., Thome, M., Bornand, T., Hahne, M., Schroeter, M., Becker, K., Wilson, A., French, L. E., **Browning, J.L.**, MacDonald, H.R. and J. Tschopp (1997) "TRAMP, a novel apoptosis-mediating receptor with sequence homology to tumor necrosis factor receptor 1 and Fas (apo-1/CD95)" Immunity 6: 79-88.
- 50). P. D. Rennert, **J. L. Browning** and P.S. Hochman (1997) "Lymphotoxin ligands selectively function to generate and organize secondary lymphoid tissues" International Immunity 9, 1627-1639
- 51). Mackay, F., Majeau, G. R., Lawton, P., Hochman, P.S. and **J. L. Browning** (1997) "Inhibition of the LT and TNF pathways in normal adult mice reveals immunological roles separate from developmental effects" Eur. J. Immunol. 27:2033-2042
- 52). Koni, P. A., A. K., Sacca, R., Lawton, P., **Browning, J. L.**, Ruddle, N.H. and R.A. Flavell (1997) "Distinct roles in lymphoid organogenesis for lymphotoxins alpha and beta revealed in lymphotoxin-beta deficient mice" Immunity 6:491-500
- 53). **Browning, J.L.**, Sizing, I. D., Lawton, P., Bourdon, P., Rennert, P. D., Majeau, G. R., Ambrose, C.A., Hession, C., Miatkowski, K., Griffiths, D.A., Ngam-ek, A., Meier, W., Benjamin, C.A. and Hochman, P.S. (1997) "Characterization of lymphotoxin-alpha/beta complexes on the surface of mouse lymphocytes" J. Immunol. 159:3288-3298

- 54). Mackay, F., Bourdon, P., Griffiths, D.A., Lawton, P., Zafari, M., Sizing, I.D., Miatkowski, K., Ngam-ek, A., Benjamin, C.D., Hession, C., Ambrose, C.M., Meier, W. and **J.L. Browning** (1997) "Cytotoxic activities of recombinant soluble murine lymphotoxin-alpha and lymphotoxin-alpha/beta complexes" J. Immunol. 159:3299-3310
- 55). Canella, B., Douglas-Sizing, I., Benjamin, C. D., **Browning, J.L.**, Raine, C.S. (1997) "Antibodies to lymphotoxin alpha and LT beta recognize different glial cell types in the central nervous system" J. Neuroimmunology 78:172-179
- 56). Gonzalez, M, Mackay, F., **Browning, J. L.**, Kosco-Vilbois, M. H. and R. J. Noelle (1998) "The sequential role of lymphotoxin and B cells in the development of splenic follicles" J. Exp. Med. 187, 997-1007.
- 57). Chicheportiche, Y., Bourdon, P. R., Xu, H., Hsu, Y-M., Scott, H., Hession, C., Garcia, I. and **Browning, J.L.** (1997) "TWEAK, a new secreted ligand in the tumor necrosis factor family that weakly induces apoptosis" J. Biol. Chem. 272:32401-32410
- 58). Mackay, F., **Browning, J. L.**, Lawton, P., Shah, S. A., Comiskey, M., Bhan, A. K., Mizoguchi, E., Terhorst, C. and Simpson, S. (1998) "Both the lymphotoxin and TNF pathways are involved in experimental colitis" Gastroenterology 115: 1464-1475
- 59). Ettinger, R., Mebius, R., **Browning, J.L.**, Michie, S. A., Tuijl, S. V., Kraal, G., Ewijk, W.V. and McDevitt, H. O. (1998) International Immunol. 10, 727-741.
- 60). Mackay, F. and **Browning, J. L.** (1998) "Turning off follicular dendritic cells" Nature 395, 26-27
- 61). Rennert, P. D., James, D., Mackay, F., **Browning, J.L.** and Hochman, P. S. (1998) "Lymph node genesis is induced by signaling through the lymphotoxin-beta receptor" Immunity 9, 71-79.
- 62). Ngo, V. N., Korner, H., Peschon, J. J., Gunn, M. D., Schmidt, K. N., Cooper, M. D., **Browning, J. L.**, Sedgwick, J. D. and Cyster, J. G. (1998) "Tumor necrosis factor-alpha and lymphotoxin-alpha/beta direct expression of lymphoid tissue chemokines needed for lymphocyte compartmentalization in the spleen" J. Exp. Med. 189: 403-412
- 63). Lucas, R., Tacchini-Cottier, F., Guler, R., Vesin, S., Jemelin, S., Marchal, G., Vassalli, P., **Browning, J.** and I. Garcia (1998) "A protective role for lymphotoxin in host defense against mycobacterial infection" Eur. J. Immunol. 29, 4002
- 64). Murphy, M., Walter, B. N., Pike-Noble, L., Fanger, N. A., Guyre, P. M., **Browning, J. L.**, Ware, C. F. and Epstein, L. (1998) "Expression of the lymphotoxin-beta receptor on follicular dendritic stromal cells in human lymphoid tissues" Cell Death and Diff. 5, 497-505
- 65). Schneider, P., Mackay, F., Steiner, V., Ambrose, C., Lawton, P., Hofmann, K., Acha-Ochea, H., Bodmer, J-L., Holler, N., Valmori, D., Romero, P., Werner-Favre, C., Zubler, R. H., **Browning, J. L.** and Tschopp, J. (1999) "BAFF, a novel ligand of the tumor necrosis factor family, stimulates B-cell growth" J. Exp. Med. 189, 1747-1756
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- 67). Mackay, F., Woodcock, S. A., Lawton, P., Ambrose, C., Baetscher, M., Schneider, P., Tschopp, J. and J. L. **Browning** (1999) Mice transgenic for BAFF develop lymphocytic disorders along with autoimmune manifestations" J. Exp. Med. 190, 1697-1710
- 68). Wu, Q., Wang, Y., Wang, J., Hedgeman, E., **Browning, J. L.**, and Y-X. Fu (1999) "The requirement for membrane lymphotoxin for the presence of dendritic cells in lymphoid tissues" J. Exp. Med. 190, 629-638
- 69). Puglielli, M., **Browning, J.L.**, Brewer, A.W., Schreiber, R., Sheih, W-J., Altman, J., Oldstone, M., Zaki, S. and R. Ahmed (1999) "Reversal of virus-induced systemic shock and respiratory failure by blockade of the lymphotoxin pathway" Nature Medicine 5, 1370-1374
- 70). Ansel, K.M., Ngo, V.N., Hyman, P. L., Luther, S.A., Forster, R., Sedgewick, J.D., **Browning, J.L.**, Lipp, M. and Cyster, J.G. (2000) "A chemokine-driven positive feedback loop organizes lymphoid follicles" Nature 406, 309-314
- 71). Husson, H., Lugli, S. M., Ghia, P., Cardoso, A., Roth, A., Brohmi, K., Carideo, E.G., Choi, Y.S., **Browning J.L.** and Freedman, A.S. (2000) "Functional effects of TNF and lymphotoxin a.b on FDC-like cells" Cell. Immunol. 203, 134-143
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- 73). Debard, N., Sierro, F., **Browning J** and J-P Kraehenbuhl (2001) "The role of mature lymphocytes and lymphotoxin on the development of follicle-associated epithelium and M cells in mouse Peyer's Patches" Gastroenterology 120, 1173
- 74). Thompson, J. S., Schneider, P., Kalled, S. L., Wang, L., Lefevre, E. A., Cachero, T. G., MacKay, F., Bixler, S. A., Zafari, M., Liu, Z. Y., Woodcock, S. A., Qian, F., Batten, M., Madry, C., Richard, Y., Benjamin, C. D., **Browning, J. L.**, Tsapis, A, Tschopp, J., and Ambrose, C. (2000) "BAFF binds to the tumor necrosis factor receptor-like molecule B cell maturation antigen and is important for maintaining the peripheral B cell population" J. Exp. Med. 192, 129
- 75). Rennert, P., Schneider, P., Cachero, T.G, Thompson, J., Trabach, L., Hertig, S., Holler, N., Qian, F., Mullen, C., Strauch, K., **Browning, J.L.**, Ambrose, C. and J. Tschopp (2000) "A soluble form of B cell maturation antigen, a receptor for the tumor necrosis factor family member APRIL, inhibits tumor cell growth" J. Exp. Med. 192, 1677.
- 76). Rennert, P., Hochman, P.S., Flavell, RA, Chaplin, DD., Jayaraman, S., **Browning, J.L.**, and YX Fu (2001) "Essential role for lymph nodes in contact hypersensitivity revealed in lymphotoxin-alpha deficient mice" J. Exp. Med. 193, 1227.
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- 79). **Browning J. L.** and French, L. (2002) "Visualization of developing peripheral lymph nodes in the mouse embryo and a comparison of embryonic lymphotoxin-beta and lymphotoxin-beta receptor expression" J. Immunol. 168, 5079-5087

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- 81). Gommerman, J. L., Mackay, F., Chutkowski, C., Donskoy, E., Meier, W., Martin, P. and **J.L. Browning** (2002) "Manipulation of lymphoid microenvironments in non-human primates by an inhibitor of the lymphotoxin pathway" J. Clin. Invest. 110, 1359
- 82) Fava, R. A., Notidis, E., Hunt, J., Szanya, V., Ratcliffe, N., Ngam-ek, A., de fougerolles, A., Sprague, A. and **J. L. Browning** (2003) "Critical role for the lymphotoxin pathway in the induction and progression of collagen arthritis" J. Immunol. 171: 115-126
- 83). Gommerman, J., Giza, K., Perper, S., Sizing, I., Ngam-ek, A., Nickerson-Nutter, C., and **J. L. Browning** (2003) J. Clin. Invest. 112: 755-767

### **REVIEWS**

- Browning, J.L.** (1981) "NMR Studies of the Structural and Motional Properties of Phospholipids in Membranes", a chapter in Liposomes: from Physical Structure to Therapeutic Applications, (C. G. Knight, ed.) Elsevier/North Holland Biomedical Press.
- Browning, J.L.**, Ward, M., Wallner, B. and Pepinsky, B. (1990) "Studies on the Structural Properties of Lipocortin-1 and the Regulation of its Synthesis by Steroids" in Cytokines and Lipocortins in Inflammation and Differentiation, eds. Melli, M. and Parente, L. Wiley-Liss New York, N.Y.
- Vadas, P., **Browning, J.L.**, Edelson, J. and Pruzanski, W. (1993). Extracellular phospholipase A2 expression and inflammation: The relationship with associated disease states. J. Lipid Mediators 8:1-30.
- Ware, C.F, VanArsdale, T., Crowe, P. and **J.L. Browning**. (1995) The ligands and receptors of the lymphotoxin system. in Pathways for Cytolysis, pp 175-218, eds. Griffiths and Tschopp, Springer-Verlag
- MacKay, F and **J. L. Browning** (2002) "BAFF, a fundamental survival factor for B cells" Nature Immunol. Rev. 2, 465-476
- Mackay, F., Schneider, P, Rennert, P. and **J. L. Browning** (2003) "BAFF and APRIL: a tutorial on B cell survival" Ann. Rev. Immunol 20 (2003) (invited review)
- Gommerman, J. and **J. L. Browning** (2002) " Lymphotoxin, microenvironments and autoimmune disease" Nature Immunol Rev. 3: 642-655 (invited review)

### **Manuscripts in preparation**

- Lukashev, M., Garber, E., Xu, X., Wilson, C., Ngam-ek, A., Zeng, W., Griffith, L., Bailly, V. and **J.L. Browning** "Lymphotoxin-beta receptor regulates the expression of the CXCR3 ligands IP-10, Mig and I-TAC" in preparation
- Gommerman, J., Sizing, I., Groom, J., Woodcock, S., Kalled, S., Mackay, F., **Browning, J.L.** "Two different type of lupus models are revealed by use of LT and CD40 pathway inhibitors" in preparation
- Lukashev, M., Lepage, D., Wilson, C., Bailly, V., **Browning, J.L.** "Use of gene profiling to define colorectal tumors that respond to activation of the LTBR" in preparation